

**WHAT IS CLAIMED IS:**

1. For use with an electric meter chassis having a dielectric housing protruding therefrom, an antenna for allowing electric meter circuitry within said chassis to communicate wirelessly through said dielectric housing, comprising:

a wireless communication circuit couplable to said electric meter circuitry; and

an antenna element located within said dielectric housing coupled to said wireless communication circuit.

2. The antenna as recited in Claim 1 wherein said antenna generally conforms to a portion of an internal surface of said dielectric housing.

3. The antenna as recited in Claim 1 wherein said chassis comprises electric meter circuitry located in a circuit board rack within said dielectric housing, said antenna located between circuit boards in said circuit board rack.



4. The antenna as recited in Claim 1 wherein said chassis  
2 comprises:  
3 electric meter circuitry located in said dielectric housing;  
4 and  
5 an electromagnetic shield located about at least a portion of  
6 said electric meter circuitry.

5. The antenna as recited in Claim 1 wherein said antenna  
2 element is arcuate and has a flattened lateral cross section.

6. The antenna as recited in Claim 1 wherein said antenna is  
2 a dipole antenna.

7. The antenna as recited in Claim 1 wherein said wireless  
2 communication circuit has a carrier frequency of between 700 and  
3 950 megahertz.



8. For use with an electric meter chassis having a  
2 dielectric housing protruding therefrom, a method of manufacturing  
3 an antenna for allowing electric meter circuitry within said  
4 chassis to communicate wirelessly through said dielectric housing,  
5 comprising the steps of:

6 providing a wireless communication circuit couplable to said  
7 electric meter circuitry; and

8 locating an antenna element within said dielectric housing,  
9 said antenna coupled to said wireless communication circuit.

10. The method as recited in Claim 8 further comprising  
2 causing said antenna to generally conform to a portion of an  
3 internal surface of said dielectric housing.

11. The method as recited in Claim 8 further comprising  
2 placing electric meter circuitry in a circuit board rack within  
3 said dielectric housing, said antenna located between circuit  
4 boards in said circuit board rack.

12. The method as recited in Claim 8 further comprising:  
2 placing electric meter circuitry in said dielectric housing;  
3 and  
4 placing an electromagnetic shield about at least a portion of  
5 said electric meter circuitry.



12. The method as recited in Claim 8 further comprising  
2 forming said antenna into a metal arc having a flattened lateral  
3 cross section.

13. The method as recited in Claim 8 wherein said antenna is  
2 a dipole antenna.

14. The method as recited in Claim 8 further comprising  
2 generating a carrier frequency of between 700 and 950 megahertz in  
3 a wireless communication circuit.



15. An electric meter, comprising:

an electric meter chassis having a dielectric housing protruding therefrom;

electric meter circuitry;

a wireless communication circuit couplable to said electric meter circuitry; and

an antenna element located within said dielectric housing coupled to said wireless communication circuit.

16. The meter as recited in Claim 15 wherein said antenna generally conforms to a portion of an internal surface of said dielectric housing.

17. The meter as recited in Claim 15 further comprising an electromagnetic shield located about at least a portion of said electric meter circuitry.

18. The meter as recited in Claim 15 wherein said antenna is arcuate and has a flattened lateral cross section.

19. The meter as recited in Claim 15 wherein said antenna is a dipole antenna.



20. The meter as recited in Claim 15 wherein said wireless  
2 communication circuit has a carrier frequency of between 700 and  
3 950 megahertz.

21. The meter as recited in Claim 15 wherein said wireless  
2 communication circuit communicates meter billing information.

22. The meter as recited in Claim 15 wherein said wireless  
2 communication circuit communicates information selected from the  
3 group consisting of:  
4 energy usage,  
5 power demand, and  
6 power factor.

23. The meter as recited in Claim 15 wherein said wireless  
2 communication circuit communicates information selected from the  
3 group consisting of:  
4 time of use, and  
5 interval recordings of energy usage.



24. The meter as recited in Claim 15 wherein said wireless  
2 communication circuit communicates information selected from the  
3 group consisting of:  
4 power quality information,  
5 power outage information,  
6 site analysis information, and  
7 diagnostic information.

25. The meter as recited in Claim 15 wherein said chassis  
2 comprises a capacitively backed up power supply that powers said  
3 electric meter circuitry and said wireless communication circuit,  
4 thereby allowing said wireless communication circuit to communicate  
5 power outage information during a loss of power.

26. The meter as recited in Claim 15 wherein said balance  
2 circuit is a microstrip.

27. The meter as recited in Claim 15 wherein said chassis  
2 comprises a flex strip connector that couples said wireless  
3 communication circuit to said electric meter circuitry.